SAMSUNG
ELECTRO-MECHANICS
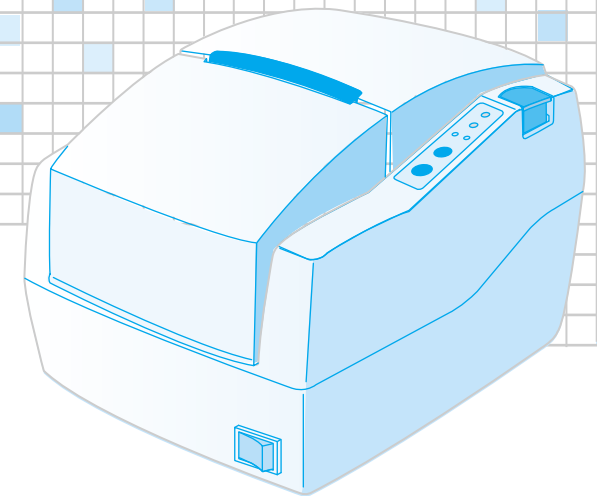
Operator's Manual

SRP-500

SAMSUNG
ELECTRO-MECHANICS

Samsung Electro-Mechanics

EMC and Safety standards Applied

Product Name : SRP-500
The following standards are applied only to the printers that are so labeled.

Europe :	CE marking, TUV/GS : EN60950 ; 1999
North America :	EMI : FCC Class A
Safety standards :	UL / C-UL : UL60950-3rd.
National : CB-scheme :	IEC 60950 ; 1999

WARNING

The connection of a non-shielded printer interface cable to this printer
will invalidate the EMC standards of this device.
You are cautioned that changes or modifications not expressly approved
by the party responsible for compliance could void your authority to operate the
equipment.

CE Marking

The printer conforms to the following Directive and Norms

Directive 89/336/EEC   EN 55022 Class A :1998
                        EN 55024 : 1998
                            (EN 61000-4-2 : 1995+A1 : 1998)
                            (EN 61000-4-3 : 1996)
                            (EN 61000-4-4 : 1995)
                            (EN 61000-4-5 : 1995)
                            (EN 61000-4-6 : 1996)
                            (EN 61000-4-11 : 1994)
                        EN 61000-3-2 : 1995+A1 : 1998+A2 : 1998)
                        EN 61000-3-3 : 1995

Directive 73/23/EEC   Safety : EN 60950 ; 1999

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Front cover   Rear cover

Open button

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■ **Rear view**

Drawer kick-out
connector

Interface
connector

Power
connector

The SRP-500 is high-quality inkjet POS printer that can print on roll paper.
This is compact, light-weight and highly reliable one-station printer
and has the following features.

- Compact design and light-weight.
- High-speed printing using logic-seeking.
- Easy to use: clamshell mechanism.
- High reliability and long life due to the use of stepping motors for both
  carriage return and paper feeding.
- Two color printing (red/black/blue/green) available.
- Various formats are possible because the paper feeding pitch is selectable.
- High general control utility based on the ESC/POS (TM) standard.
- 2 drawers can be driven due to the internal drawer interface.
- Character font (12X12, 12X14) is selectable.
- The auto cutter uses a circular method with a high-quality blade and a long
  life (Approximately 500,000 cuts)
- Paper near end sensor is standard.

■ Please be sure to read the instructions in this manual carefully before
  using your new printer.

1-1. Unpacking

Your printer box should include the item shown in the illustration below.
If any items are damaged or missing, please contact your dealer.

- SRP-500

- AC adapter
- Power code
- Paper roll

- Operator's manual
- Ink cartridges
- Cable cover
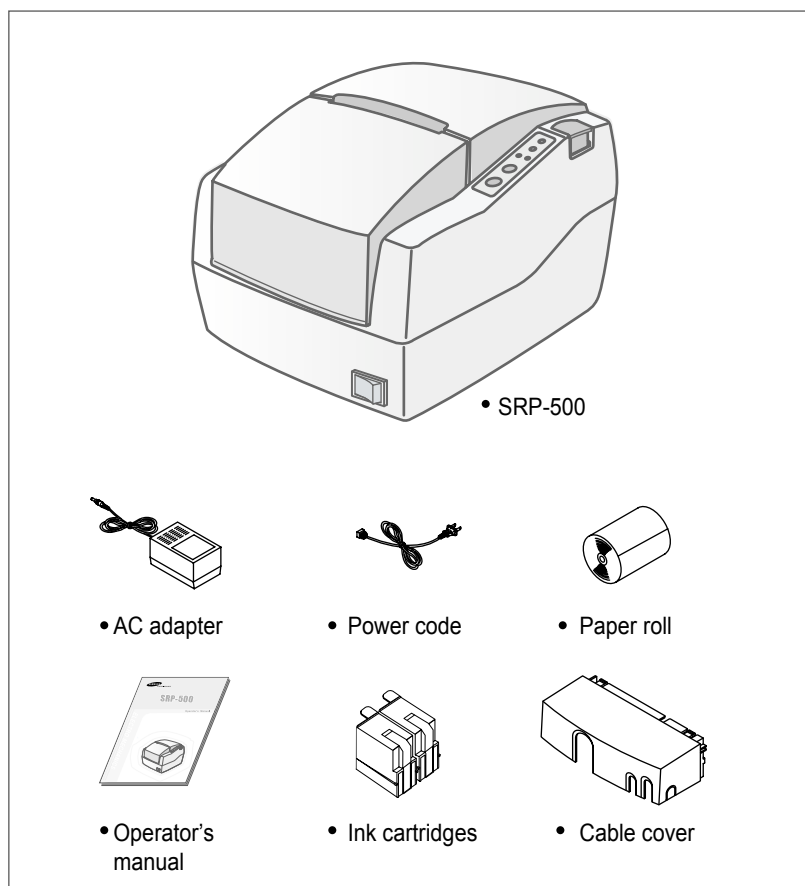
1-2. Choosing a place for the printer

- Avoid locations that are subject to direct sunlight or excessive heat.
- Avoid using or storing the printer in place subject to excessive temperature or moisture.
- Do not use or store the printer in a dirty location.
- When setting up the printer, choose a stable, horizontal location. Intense vibration or shock may damage the printer.
- Ensure the printer has enough space to be used easily.

1-3. Connecting the cables

■ Plugging in AC adapter

> **CAUTION**
> - Before connecting the printer to the power supply, make sure that the voltage and power specifications match the printer's requirements.
>
> - Using an incorrect power supply can cause serious damage to the printer.

Connect the AC adapter according to the following procedure.

1) Make sure the printer is turned off.
2) Plug the AC adapter cable into the printer's power connector.
3) Plug the power cord into the outlet, and turn on the power.

Drawer kick-out Connector

Power connector

AC adapter

Interface connector

Drawer kick-out cable

Power cord

Serial/Parallel/USB Interface cable
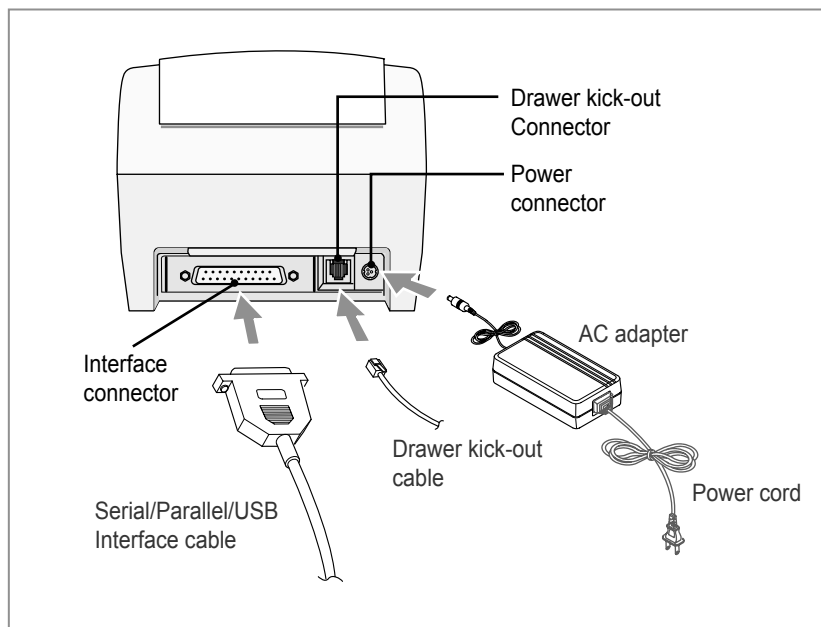
■ **Connecting the interface cable**

Connect the printer to the host ECR (host computer) though an interface cable matching the specification of the printer and the host ECR (host computer).
Be sure to use a drawer that matches the printer's specification.

Depending on the interface your system uses, either connect the serial, parallel or USB communication cable to the appropriate connector on the back of the printer.
Cable are provided by your dealer or system installer.

Connect the interface cable according to the following procedure.

1) Turn off printer and the ECR (host computer) host.
2) Plug the interface cable into the interface connector on the printer then fasten the screw on both sides of the connector.
3) Plug the drawer kick-out cable into the drawer Kick-out connector on the printer. (When removing the drawer kick-out cable, press in on the connector's clip and pulling out.)

1-4. Installing or replacing paper roll

CAUTION

Notice the caution label and do not touch the auto cutter blade
when you open rear cover.

1) To prevent data loss, make sure that the printer is not receiving data.
2) Open the rear cover by pressing the open button and push the arrow
   mark back.

Rear cover

Front cover   Open button
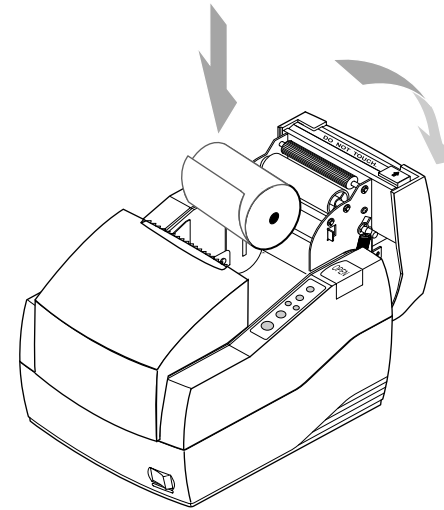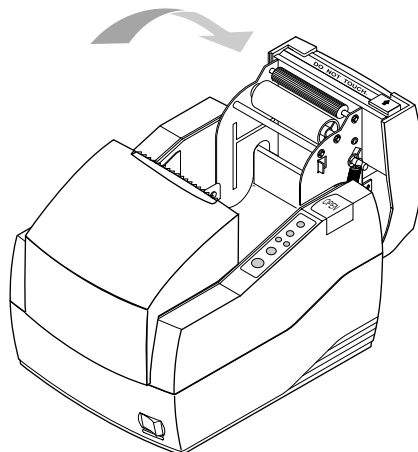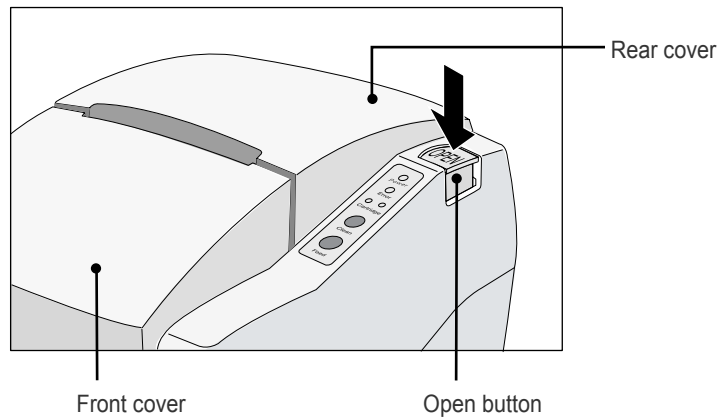
3) Remove the used
   paper roll core if
   there is one.

4) Insert the paper
   roll as shown.
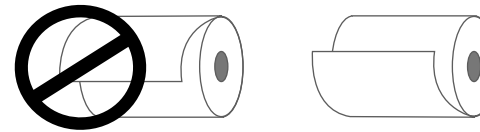
5) Be sure note the
   correct direction
   that the paper should
   come off the roll.
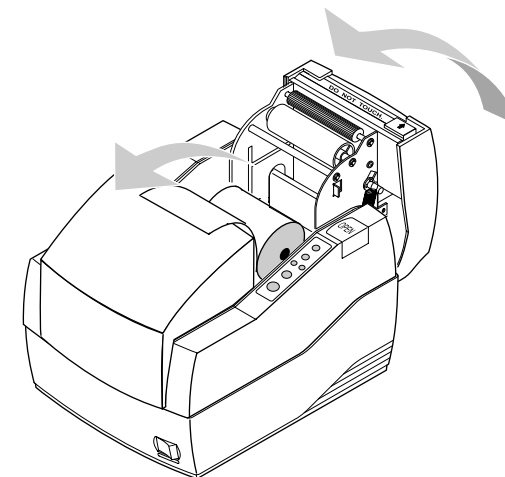
6) Pull out small amount
   of paper as shown.
   Then close the cover
   and tear off the extra
   paper by pulling it
   toward the front of the
   printer.

1-5. Installing new Ink cartridge(s)

1) Remove new ink cartridge from sealed pouch.
   (Hold cartridge by round plastic avoid
   contamination)
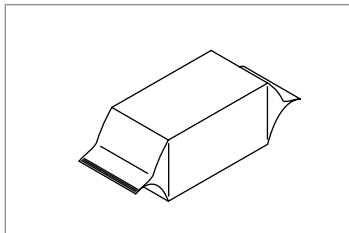
2) Remove Mylar from face of new cartridge.

> **CAUTION**
>
> Do not touch ink cartridge's metallic connector
> surface with your fingers.
> Doing so will contaminate the connector and
> produce bad print quality.

Tab

Mylar tape
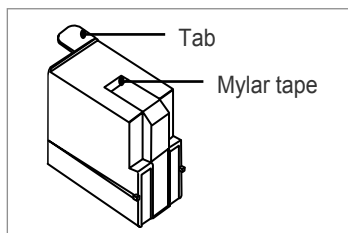
3) Turn the printer on and
   open the font cover of printer.

Front cover
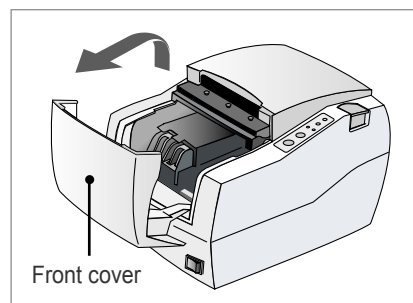
4) Pull down cartridge holder.
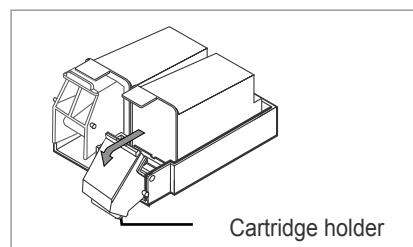
Cartridge holder

5) Take out old ink cartridge(s).
   Place new cartridge(s) into carriage.
   Hold plastic tab to ensure clean installation.
   Black cartridge goes into the left carriage.
   The color cartridge goes into right carriage.
   (tab faces front of printer.)

5a-remove
old cartridge

5a-remove
old cartridge
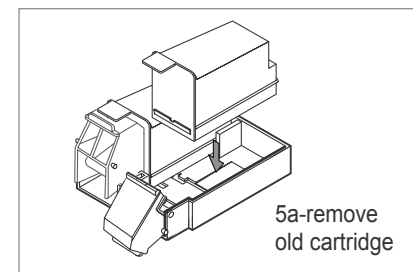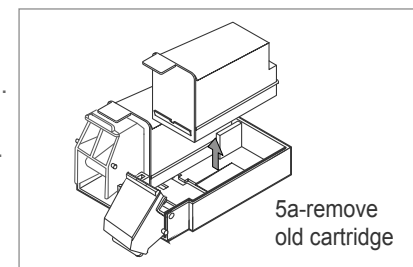
6) Close cartridge holder.
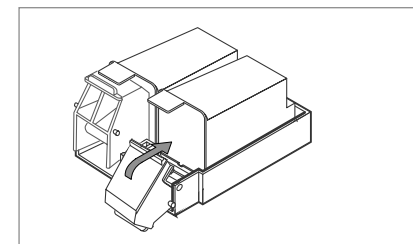
7) Close from cover of printer.

Front cover
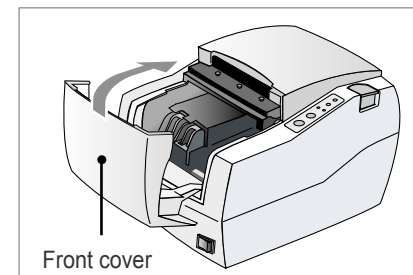
Notice
The ink drop counter is automatically reset when the ink-cartridge is installed.

1-6. Using the control panel

Most of the functions of this printer are governed by software,
but you can monitor the printer's status by looking at the lights on the control panel
and for some procedures you will use the buttons.

Control panel
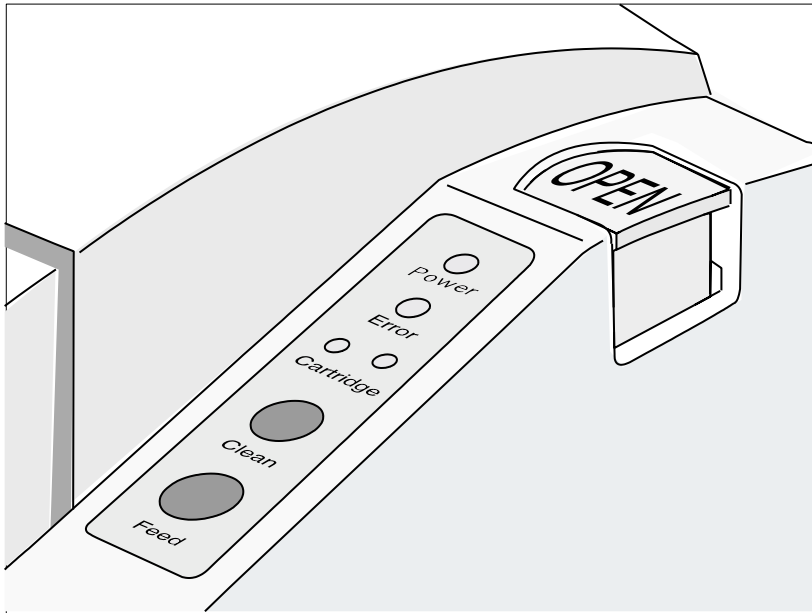
Power (LED)

This indicator light is on when the power is turned on.
It blinks when the printer is in the self test printing stanby state.
Always wait until this indicator light stops blinking before you start using
the printer and before you turn it off.

Error (LED)

When this indicator light is on(but not blinking), it means that the printer is out of
paper or almost out of paper or the printer covers are open.
When this light is blinking, there is an error. If you see this light is blinking,
turn off the printer for a few seconds and then turn it back on.
If the light is still blinking, call your supervisor or a service person.

Cartridge (LED)

The right indicator is for the right cartridge and the left indicator for the left
cartridge. If the printer is a single color printer, the left cartridge indicator will be
used. In the most cases, the left cartridge is back, and the right is a color.
This indicator light (LH/RH) blinks when the cartridge is almost out of ink and
stays on when the cartridge (s) is removed.

Clean (BUTTON)

Use this button to clean the printer head.
(See the instructions "Printing is poor" (2-4) in chapter 2 for Cleaning
The Printer Head.)

Feed (BUTTON)

Use this button to feed paper or to start self test and for hexadecimal dump
mode.
(See the instructions "Self Test" (1-7) in this chapter for self test.)
(See the instructions "Hexadecimal Dump" (2-5) in chapter 2 for hexadecimal
dump mode.)

Setting up the printer

1-7. Self test

The self test lets you know if your printer is operating properly.
It checks the control circuits, printer mechanisms, print quality,
ROM version, and DIP switch settings.

The test is independent of any other equipment or software,
so it is a good idea to run it when you first set up the printer or if you have
any trouble. If the self test works correctly, the problem is in the other
equipment or the software, not the printer.

Running the self test

1) Make sure the printer is turned off and the printer cover is closed
   properly.

2) Turn on the printer, while holding down the **Feed** button, and then
   continue to hold until the paper begins to feed.

3) Press the **Feed** button. The self test prints the printer settings
   and then cuts the paper, and pauses. (The power light blinks.)

4) Press the **Feed** button to continue printing.
   The printer prints rolling ASC II pattern, nozzle pattern,
   receipt pattern, NV bit image.

5) The self test automatically enters the hexadecimal dump mode.

6) Power off to terminate self mode.

Troubleshooting

This chapter gives solutions to some printer problems you may have.

2-1. The printer does not start printing.

■ Are any of the control panel lights on?
  If no control panel lights are on, check the following:

● Make sure that the printer is turned on.

● Make sure that the power supply cable is correctly plugged into the printer
  and to the power outlet.

■ If any of the lights are on, please check the following:

● If the Power light is blinking, the printer is not yet ready.
  Wait until the light quits blinking and the printer should be to use.

● If the Error light is on(but not blinking), the printer is off line.
  Check to see that the covers are closed and check the paper state.
  See Chapter 1 for instructions on installing or replacing the paper roll.

● If the Error light is blinking, there is an error.
  In this case, turn off the printer for a few seconds and then turn it back on.
  If the light is still blinking, call your supervisor or service person.

● If the Cartridge lights(LH/RH) is on, check the Cartridges in the printer.
  See chapter 1 for instruction on installing new ink-Cartridges.

2-2. The printer stops printing.

● If the Error light is on (but not blinking), the printer is off line.
Check to see that the covers are closed and check the paper state.
See Chapter 1 for instructions on installing or replacing the paper roll.

● If the Error light is blinking, there is an error. In this case, turn off the
printer for a few seconds and then turn it back on.
If the light is still blinking, call your supervisor or a service person.

● Turn off the printer and check for a paper jam.
To clear paper jam, follow th steps below:

1) Turn the printer off and open the rear cover of the printer.
2) Remove the jammed paper and reload the paper roll as described in Chapter1.
3) Check the position of circular cutter in Auto Cutter Assembly.
   If it is not located in Home Position(Right-Hand Side End),
   Turn the printer on to locate it on Home position.
4) Close the rear cover.

2-3. You want to check the operation of the printer by itself.

■ Self test
Try to run the self test to check that the printer works properly.
See the self test instructions in Chapter 1 to run the self test.
If the self test does not work, contact your supervisor or a service person.
If the self test works properly, check the following:

1) Check the connection at both ends of the interface cable between the printer
   and the computer. Also make sure that this cable meets the specifications for
   both the printer and the computer.

2) The data transmission settings may be different between the printer and
   computer. Make sure that the printer's DIP switch settings for data transmission
   are the same as the computer's. You can see the printer's interface settings
   on your self test printout.

If the printer still does not print, contact your dealer or a qualified service person.

2-4. Printing is poor

Obstructed ink nozzles in the print head and lower the print quality.
Try cleaning the print head as described below:

■ Cleaning the print head

1) Make sure that the printer is turned on.

2) Press the Clean button.
   The printer begins its self cleaning process, which takes less than 5 seconds.
   The power light blinks during the cleaning process.

3) When the cleaning action is finished (Power light is ON), resume printing
   or run a self test (as described in Chapter 1).

4) If the printing quality has not improved, repeat this process 2-3 more times.
   If the printing quality has not still improved, replace the ink cartridge.
   If, after the new ink cartridge has been installed, the printing quality has not still
   improved, call your supervisor or a service person.

Troubleshooting

DIP switch settings

Although the factory settings are best for almost all users, if you have special requirements, you can change the DIP switch.

2-5. You want to check a software program.

■ Hexadecimal Dump

This feature allows experienced users to see exactly what data is coming to the printer. This can be useful in finding software problems. When you turn on the hexadecimal dump function, the printer prints all commands and other data in hexadecimal format along with a guide section to help you find specific commands.

To use the hexadecimal dump feature, follow these steps:

1) After you make sure that the printer is off, open the front cover of the printer.

2) Hold down the Feed button while you turn on the printer.

3) Close the front cover.

4) Run any software program that sends data to the printer. The printer prints "Hexadecimal Dump" and then all the codes it receives in a two – column format. The first column contains the hexadecimal codes and the second column gives the ASCII characters that correspond to the codes.

```
              Hexadecimal Dump

    1B 21 00 1B 26 02 40 40     . ! . . & . @ @
    1B 25 01 1B 63 34 00 1B     . % . . c 4 . .
    41 42 43 44 45 46 47 48     A B C D E F G H
```

● A period(.) is printed for each code that has no ASCII equivalent.

5) When the printing finishes, turn off the printer.

3-1. Setting the DIP switches

■ DIP switch functions

Your printer has two sets of DIP switches.
The functions of the switches are shown in the following table.

DIP - SW1

Switch	Function	ON	OFF	Defult
1-1				OFF
1-2	Emulation Selection	Refer to the following table		OFF
1-3	Auto cutter	Selection	Disable	OFF
1-4	Cartridge	one cartridge	two cartridges	OFF
1-5	Density	Bold	Normal	OFF
1-6	Reserved			OFF
1-7	Near end sensor	Enable	Disable	OFF
1-8	Low ink check	Disable	Enable	OFF

	1-1	1-2
EPSON	OFF	OFF
STAR	OFF	ON
CITIZEN	ON	OFF
EPSON-KP	ON	ON

EPSON-KP(EPSON Kitchen Printer mode)

A alarm is generated by printer after auto-cutting and in paper-end error. (It needs buzzer accessory.)

DIP - SW2

Switch	Function	ON	OFF	Defult
2-1	Data receive error	Print "?"	Ignore	OFF
2-2	Reserved			OFF
2-3	Hand Shaking	DTR/DSR	XON/XOFF	OFF
2-4	Word length	7bit	8bit	OFF
2-5	Parity check	Enable	Disable	OFF
2-6	Parity selection	EVEN	ODD	OFF
2-7	Baud rate selection	Refer to the following table		OFF
2-8				OFF

Transmission	2-7	2-8
2400 baud	ON	ON
4800 baud	OFF	ON
9600 baud	OFF	OFF
19200 baud	ON	OFF

Notice

Changes in DIP switch settings are recognized only when the printer power is turned on or when the printer is reset by using the interface. If the DIP switch setting is changed after the printer power is turned on, the change does not take effect until the printer is turned on again or is reset.

DIP switch settings

Code table

3-2. Changing the DIP switch setting

If you need to change settings, follow the steps below to make your changes.

> **CAUTION**
>
> Turn off the printer before removing the DIP switch cover to prevent an electric short, which can damage the printer.

1) Make sure the printer is turned off.
2) Remove the screw from the DIP switch cover.
   Then take off the DIP switch cover, which is shown in the illustration below.
3) Set the switches using a pointed tool, such as tweezers or a small screwdriver.
4) Replace the DIP switch cover. Then secure it with the screw.

   * The new settings take effect when you turn on the printer.

DIP switch cover
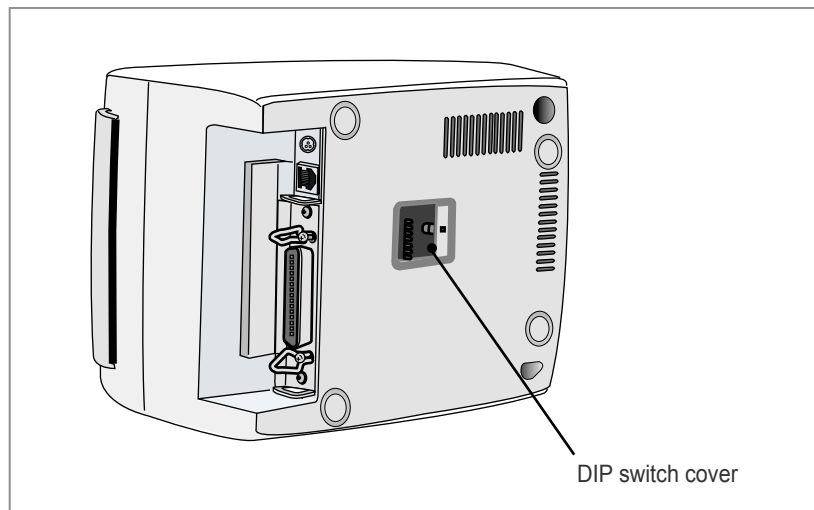
The following page show the character code tables.
To fine the character corresponding to a hexadecimal number, count across the top of the table for the left digit and count down the left column of the table right digit. For example, 4A=J

HEX	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
HEX / BIN	0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111
0 / 0000	NUL 00	DLE 16	SP 32	0 48	@ 64	P 80	` 96	p 112	Ç 128	É 144	á 160	▒ 176	└ 192	┴ 208	α 224	≡ 240
1 / 0001	01	XON 17	! 33	1 49	A 65	Q 81	a 97	q 113	ü 129	æ 145	í 161	▒ 177	┬ 193	▬ 209	β 225	± 241
2 / 0010	02	18	" 34	2 50	B 66	R 82	b 98	r 114	é 130	Æ 146	ó 162	▒ 178	┬ 194	╥ 210	Γ 226	≤ 242
3 / 0010	03	XOFF 19	% 35	3 51	C 67	S 83	c 99	s 115	â 131	ò 147	ú 163	│ 179	├ 195	╨ 211	π 227	≥ 243
4 / 0100	EQT 04	20	$ 36	4 52	D 68	T 84	d 100	t 116	ä 132	ö 148	ñ 164	┤ 180	─ 196	╧ 212	Σ 228	⌠ 244
5 / 0101	ENQ 05	21	% 37	5 53	E 69	U 85	e 101	u 117	à 133	ò 149	Ñ 165	╡ 181	┼ 197	╤ 213	σ 229	⌡ 245
6 / 0110	06	22	& 38	6 54	F 70	V 86	f 102	v 118	â 134	û 150	ª 166	╢ 182	╞ 198	╥ 214	μ 230	÷ 246
7 / 0111	07	23	' 39	7 55	G 71	W 87	g 103	w 119	ç 135	ù 151	º 167	╖ 183	╟ 199	╫ 215	τ 231	≈ 247
8 / 1000	BS 08	CAN 24	(40	8 56	H 72	X 88	h 104	x 120	ê 136	ÿ 152	¿ 168	╕ 184	╚ 200	╪ 216	Φ 232	° 249
9 / 1001	HT 09	25	) 41	9 57	I 73	Y 89	i 105	y 121	ë 137	Ö 153	⌐ 169	╣ 185	╔ 201	┘ 217	θ 233	• 249
A / 1010	LF 10	26	* 42	: 58	J 74	Z 90	j 106	z 122	è 138	Ü 154	¬ 170	║ 186	╩ 202	┌ 218	Ω 234	• 250
B / 1011	11	ESC 27	+ 43	; 59	K 75	[91	k 107	{ 123	ï 139	¢ 155	1/2 171	╗ 187	╦ 203	█ 219	δ 235	√ 251
C / 1100	FF 12	FS 28	, 44	< 60	L 76	\ 92	l 108		124	î 140	£ 156	1/4 172	╝ 188	╠ 204	▄ 220	∞ 236	ⁿ 252
D / 1101	CR 13	GS 29	- 45	= 61	M 77	] 93	m 109	} 125	ì 141	¥ 157	¡ 173	╜ 189	╬ 205	▌ 221	φ 237	² 253
E / 1110	14	30	. 46	> 62	N 78	^ 94	n 110	~ 126	Ä 142	Pt 158	« 174	╛ 190	╧ 206	▐ 222	ε 238	■ 254
F / 1111	15	31	/ 47	? 63	O 79	_ 95	o 111	SP 127	Å 143	ƒ 159	» 175	┐ 191	╨ 207	▀ 223	∩ 239	SP 255

Page 0 (PC437 : USA, Standard Europe)
(International Character Set : USA)

Code table

Page 2 (PC850 : Multilingual)

HEX / BIN	8 / 1000	9 / 1001	A / 1010	B / 1011	C / 1100	D / 1101	E / 1110	F / 1111
0 / 0000	Ç 128	É 144	á 160	▓ 176	└ 192	ð 208	Ó 224	─ 240
1 / 0001	ü 129	æ 145	í 161	▒ 177	┴ 193	Ð 209	ß 225	± 241
2 / 0010	é 130	Æ 146	ó 162	▒ 178	┬ 194	É 210	Ô 226	= 242
3 / 0010	â 131	ô 147	ú 163	│ 179	├ 195	Ë 211	Ò 227	3/4 243
4 / 0100	ä 132	ö 148	ñ 164	┤ 180	─ 196	È 212	õ 228	244
5 / 0101	à 133	ò 149	Ñ 165	Á 181	+ 197	ı 213	Õ 229	§ 245
6 / 0110	å 134	û 150	ª 166	Â 182	ã 198	Í 214	µ 230	÷ 246
7 / 0111	ç 135	ù 151	º 167	À 183	Ã 199	Î 215	þ 231	¸ 247
8 / 1000	ê 136	ÿ 152	¿ 168	© 184	╚ 200	Ï 216	Þ 232	° 249
9 / 1001	ë 137	Ö 153	® 169	╣ 185	╔ 201	┘ 217	Ú 233	¨ 249
A / 1010	è 138	Ü 154	¬ 170	║ 186	╩ 202	┌ 218	Û 234	· 250
B / 1011	ï 139	ø 155	1/2 171	╗ 187	╦ 203	█ 219	Ù 235	¹ 251
C / 1100	î 140	£ 156	1/4 172	╝ 188	╠ 204	▄ 220	ý 236	³ 252
D / 1101	ì 141	Ø 157	¡ 173	¢ 189	= 205	¦ 221	Ý 237	² 253
E / 1110	Ä 142	× 158	« 174	¥ 190	╬ 206	Ì 222	─ 238	■ 254
F / 1111	Å 143	ƒ 159	» 175	┐ 191	¤ 207	█ 223	´ 239	SP 255

Page 3 (PC860 : Portuguese)

HEX / BIN	8 / 1000	9 / 1001	A / 1010	B / 1011	C / 1100	D / 1101	E / 1110	F / 1111
0 / 0000	Ç 128	É 144	á 160	▓ 176	└ 192	┴ 208	α 224	≡ 240
1 / 0001	ü 129	À 145	í 161	▒ 177	┴ 193	╤ 209	β 225	± 241
2 / 0010	é 130	É 146	ó 162	▒ 178	┬ 194	π 210	Γ 226	≤ 242
3 / 0010	â 131	ô 147	ú 163	│ 179	├ 195	╟ 211	π 227	≥ 243
4 / 0100	ä 132	õ 148	ñ 164	┤ 180	─ 196	╚ 212	Σ 228	⌠ 244
5 / 0101	à 133	ò 149	Ñ 165	┤ 181	+ 197	╔ 213	σ 229	⌡ 245
6 / 0110	Á 134	ú 150	ª 166	┤ 182	╞ 198	╩ 214	µ 230	÷ 246
7 / 0111	ç 135	ù 151	º 167	╢ 183	╟ 199	╬ 215	τ 231	≈ 247
8 / 1000	ê 136	Ì 152	¿ 168	║ 184	╚ 200	╧ 216	Φ 232	° 249
9 / 1001	Ê 137	õ 153	Ò 169	╣ 185	╔ 201	┘ 217	θ 233	• 249
A / 1010	è 138	Ü 154	¬ 170	║ 186	╩ 202	┌ 218	Ω 234	• 250
B / 1011	Í 139	¢ 155	1/2 171	╗ 187	╦ 203	█ 219	δ 235	√ 251
C / 1100	Ô 140	£ 156	1/4 172	╝ 188	╠ 204	▄ 220	∞ 236	η 252
D / 1101	ì 141	Ù 157	¡ 173	╜ 189	= 205	▌ 221	φ 237	² 253
E / 1110	Ã 142	Pt 158	« 174	┘ 190	╬ 206	▐ 222	238	■ 254
F / 1111	Â 143	Ó 159	» 175	┐ 191	┴ 207	▀ 223	239	SP 255

Code table

Page 4 (PC 863 : Canadian - French)

HEX		8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	Ç 128	É 144	¦ 160	▓ 176	└ 192	⊥ 208	α 224	240
1	0001	ü 129	È 145	´ 161	▒ 177	⊥ 193	╤ 209	β 225	± 241
2	0010	é 130	Ê 146	ó 162	▒ 178	┬ 194	π 210	Γ 226	≥ 242
3	0010	â 131	ô 147	ú 163	│ 179	├ 195	╨ 211	π 227	≤ 243
4	0100	Â 132	Ë 148	¨ 164	┤ 180	─ 196	╚ 212	Σ 228	⌠ 244
5	0101	à 133	Ï 149	¸ 165	╡ 181	┼ 197	╔ 213	σ 229	⌡ 245
6	0110	134	û 150	³ 166	╢ 182	╞ 198	╙ 214	μ 230	÷ 246
7	0111	ç 135	ù 151	─ 167	╖ 183	╟ 199	╫ 215	τ 231	≈ 247
8	1000	ê 136	¤ 152	î 168	╕ 184	╚ 200	╪ 216	Φ 232	° 249
9	1001	ë 137	Ô 153	⌐ 169	╣ 185	╔ 201	┘ 217	θ 233	• 249
A	1010	è 138	Ü 154	¬ 170	║ 186	╩ 202	┌ 218	Ω 234	• 250
B	1011	Ï 139	¢ 155	1/2 171	╗ 187	╦ 203	█ 219	δ 235	251
C	1100	î 140	£ 156	1/4 172	╝ 188	╠ 204	▄ 220	∞ 236	ⁿ 252
D	1101	═ 141	Ù 157	3/4 173	╜ 189	═ 205	▌ 221	φ 237	² 253
E	1110	À 142	Û 158	« 174	╛ 190	╬ 206	▐ 222	238	■ 254
F	1111	§ 143	ƒ 159	» 175	┐ 191	⊥ 207	▀ 223	239	SP 255

Page 4 (PC 863 : Canadian - French)

Page 5 (PC 865 : Nordic)

HEX		8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	Ç 128	É 144	á 160	▓ 176	└ 192	⊥ 208	α 224	240
1	0001	ü 129	æ 145	í 161	▒ 177	⊥ 193	╤ 209	β 225	± 241
2	0010	é 130	Æ 146	ó 162	▒ 178	┬ 194	π 210	Γ 226	≥ 242
3	0010	â 131	ô 147	ú 163	│ 179	├ 195	╨ 211	π 227	≤ 243
4	0100	ä 132	ö 148	ñ 164	┤ 180	─ 196	╚ 212	Σ 228	⌠ 244
5	0101	à 133	ò 149	Ñ 165	╡ 181	┼ 197	╔ 213	σ 229	⌡ 245
6	0110	å 134	û 150	ª 166	╢ 182	╞ 198	╙ 214	μ 230	÷ 246
7	0111	ç 135	ù 151	º 167	╖ 183	╟ 199	╫ 215	τ 231	≈ 247
8	1000	ê 136	ÿ 152	¿ 168	╕ 184	╚ 200	╪ 216	Φ 232	° 249
9	1001	ë 137	Ö 153	⌐ 169	╣ 185	╔ 201	┘ 217	θ 233	• 249
A	1010	è 138	Ü 154	¬ 170	║ 186	╩ 202	┌ 218	Ω 234	• 250
B	1011	ï 139	ø 155	1/2 171	╗ 187	╦ 203	█ 219	δ 235	251
C	1100	î 140	£ 156	1/4 172	╝ 188	╠ 204	▄ 220	∞ 236	ⁿ 252
D	1101	ì 141	Ø 157	¡ 173	╜ 189	═ 205	▌ 221	φ 237	² 253
E	1110	Ä 142	Pt 158	« 174	╛ 190	╬ 206	▐ 222	238	■ 254
F	1111	Å 143	ƒ 159	¤ 175	┐ 191	⊥ 207	▀ 223	239	SP 255

Page 5 (PC 865 : Nordic)

Code table

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	€ 128	144	160	◊ 176	À 192	Ð 208	à 224	đ 240
1	0001	129	' 145	¡ 161	± 177	Á 193	Ñ 209	á 225	ñ 241
2	0010	‚ 130	' 146	¢ 162	² 178	Â 194	Ò 210	â 226	ò 242
3	0011	ƒ 131	" 147	£ 163	³ 179	Ã 195	Ó 211	ã 227	ó 243
4	0100	„ 132	" 148	¤ 164	´ 180	Ä 196	Ô 212	ä 228	ô 244
5	0101	… 133	• 149	¥ 165	µ 181	Å 197	Õ 213	å 229	õ 245
6	0110	† 134	– 150	¦ 166	¶ 182	Æ 198	Ö 214	æ 230	ö 246
7	0111	‡ 135	— 151	§ 167	· 183	Ç 199	× 215	ç 231	÷ 247
8	1000	ˆ 136	˜ 152	¨ 168	¸ 184	È 200	Ø 216	è 232	ø 248
9	1001	‰ 137	™ 153	© 169	¹ 185	É 201	Ù 217	é 233	ù 249
A	1010	Š 138	š 154	ª 170	º 186	Ê 202	Ú 218	ê 234	ú 250
B	1011	‹ 139	› 155	« 171	» 187	Ë 203	Û 219	ë 235	û 251
C	1100	Œ 140	œ 156	¬ 172	¼ 188	Ì 204	Ü 220	ì 236	ü 252
D	1101	141	157	173	½ 189	Í 205	Ý 221	í 237	ý 253
E	1110	Ž 142	ž 158	® 174	¾ 190	Î 206	Þ 222	î 238	þ 254
F	1111	143	Ÿ 159	¯ 175	¿ 191	Ï 207	ß 223	ï 239	ÿ 255

page 16 (CP1252 : WinLatin1)

	8	9	A	B	C	D	E	F
0	А	Р	а	▒	└	╨	р	Ё
1	Б	С	б	▓	┴	╤	с	ё
2	В	Т	в	▓	┬	╥	т	Є
3	Г	У	г	│	├	╙	у	э
4	Д	Ф	д	┤	─	╘	ф	Ї
5	Е	Х	е	╡	┼	╒	х	ї
6	Ж	Ц	ж	╢	╞	╓	ц	Ў
7	З	Ч	з	╖	╟	╫	ч	ў
8	И	Ш	и	╕	╚	╪	ш	°
9	Й	Щ	й	╣	╔	┘	щ	∙
A	К	Ъ	к	║	╩	┌	ъ	·
B	Л	Ы	л	╗	╦	█	ы	√
C	М	Ь	м	╝	╠	▄	ь	№
D	Н	Э	н	╜	═	▌	э	¤
E	О	Ю	о	╛	╬	▐	ю	■
F	П	Я	п	┐	╧	▀	я	

page 17 (PC 866 : Russian)

Code table

page 18 (CP 852 : DosLatin2)

HEX		8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	Ç 128	É 144	á 160	░ 176	└ 192	đ 208	Ó 224	240
1	0001	ü 129	Ĺ 145	í 161	▒ 177	┴ 193	Đ 209	ß 225	˝ 241
2	0010	é 130	ĺ 146	ó 162	▓ 178	┬ 194	Ď 210	Ô 226	˛ 242
3	0011	â 131	ô 147	ú 163	│ 179	├ 195	Ë 211	Ń 227	ˇ 243
4	0100	ů 132	Ö 148	Ą 164	┤ 180	─ 196	ď 212	ń 228	˘ 244
5	0101	ć 133	Ľ 149	ą 165	Á 181	┼ 197	Ň 213	ň 229	§ 245
6	0110	Ç 134	ľ 150	Ž 166	Â 182	Ă 198	Í 214	Š 230	÷ 246
7	0111	Ĺ 135	Ś 151	ž 167	Ě 183	ă 199	Î 215	š 231	¸ 247
8	1000	ł 136	ś 152	Ę 168	Ş 184	╚ 200	ě 216	Ŕ 232	° 248
9	1001	ë 137	Ö 153	ę 169	╣ 185	╔ 201	┘ 217	Ú 233	¨ 249
A	1010	Ö 138	Ü 154	¬ 170	║ 186	╩ 202	┌ 218	ŕ 234	· 250
B	1011	ő 139	Ť 155	Ź 171	╗ 187	╦ 203	█ 219	Ű 235	ű 251
C	1100	î 140	ť 156	Č 172	╝ 188	╠ 204	▄ 220	ý 236	Ř 252
D	1101	Ź 141	Ł 157	ş 173	Ź 189	═ 205	Ţ 221	Ý 237	ř 253
E	1110	Ä 142	× 158	« 174	ż 190	╬ 206	Ů 222	ţ 238	■ 254
F	1111	Ć 143	č 159	» 175	┐ 191	¤ 207	▀ 223	´ 239	255

Page 19 (PC 858 : Euro)

HEX		8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	Ç 128	É 144	á 160	░ 176	└ 192	ð 208	Ó 224	240
1	0001	ü 129	æ 145	í 161	▒ 177	┴ 193	Đ 209	ß 225	± 241
2	0010	é 130	Æ 146	ó 162	▓ 178	┬ 194	Ê 210	Ô 226	‗ 242
3	0011	â 131	ô 147	ú 163	│ 179	├ 195	Ë 211	Ò 227	¾ 243
4	0100	ä 132	ö 148	¨ 164	┤ 180	─ 196	È 212	õ 228	¶ 244
5	0101	à 133	ò 149	ˋ 165	Á 181	┼ 197	€ 213	σ 229	§ 245
6	0110	å 134	û 150	³ 166	Â 182	ã 198	Í 214	µ 230	÷ 246
7	0111	ç 135	ù 151	¯ 167	À 183	Ã 199	Î 215	þ 231	¸ 247
8	1000	ê 136	ÿ 152	Î 168	© 184	╚ 200	Ï 216	þ 232	° 248
9	1001	ë 137	ö 153	┐ 169	╣ 185	╔ 201	┘ 217	Ú 233	¨ 249
A	1010	è 138	Ü 154	¬ 170	║ 186	╩ 202	┌ 218	Û 234	· 250
B	1011	Ï 139	ø 155	½ 171	╗ 187	╦ 203	█ 219	Ù 235	¹ 251
C	1100	î 140	£ 156	¼ 172	╝ 188	╠ 204	▄ 220	ý 236	³ 252
D	1101	ì 141	Ø 157	¾ 173	¢ 189	═ 205	¦ 221	Ý 237	² 253
E	1110	Ä 142	× 158	« 174	¥ 190	╬ 206	Ì 222	¯ 238	■ 254
F	1111	Å 143	ƒ 159	» 175	┐ 191	¤ 207	■ 223	´ 239	SP 255

Code table

Page 21 (MS-DOS 862 : Israel)

HEX		8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	å 128	ð 144	á 160	¦ 176	+ 192	- 208	α 224	≡ 240
1	0001	Á 129	ñ 145	í 161	¦ 177	- 193	- 209	ß 225	± 241
2	0010	Â 130	Ò 146	ó 162	¦ 178	- 194	- 210	Γ 226	≥ 242
3	0011	à 131	ó 147	ú 163	¦ 179	+ 195	+ 211	π 227	≤ 243
4	0100	ä 132	ô 148	ñ 164	¦ 180	- 196	+ 212	Σ 228	(244
5	0101	å 133	õ 149	Ñ 165	¦ 181	+ 197	+ 213	σ 229	) 245
6	0110	æ 134	õ 150	ª 166	¦ 182	¦ 198	+ 214	µ 230	÷ 246
7	0111	ç 135	÷ 151	º 167	+ 183	¦ 199	+ 215	τ 231	˜ 247
8	1000	è 136	ø 152	¿ 168	+ 184	+ 200	+ 216	Φ 232	° 248
9	1001	é 137	û 153	¬ 169	¦ 185	+ 201	+ 217	Θ 233	· 249
A	1010	ê 138	ù 154	¬ 170	¦ 186	- 202	+ 218	Ω 234	· 250
B	1011	ë 139	¢ 155	½ 171	+ 187	- 203	¦ 219	δ 235	√ 251
C	1100	ì 140	£ 156	¼ 172	+ 188	¦ 204	- 220	∞ 236	ⁿ 252
D	1101	í 141	¥ 157	¡ 173	+ 189	- 205	¦ 221	φ 237	² 253
E	1110	î 142	P 158	« 174	+ 190	+ 206	¦ 222	ε 238	¦ 254
F	1111	ï 143	ƒ 159	» 175	+ 191	- 207	═ 223	∩ 239	255

Page 22 (MS-DOS 864 : Arabic)

HEX		8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	° 128	β 144	· 160	· 176	¢ 192	Ð 208	Û 224	□ 240
1	0001	· 129	§ 145	· 161	' 177	Á 193	Ñ 209	ز 225	ø 241
2	0010	· 130	φ 146	∫ 162	▾ 178	Â 194	Ò 210	ز 226	۵ 242
3	0011	√ 131	± 147	£ 163	▾ 179	Ä 195	~ 211	≤ 227	۵ 243
4	0100	¦ 132	½ 148	α 164	ٹ 180	Ä 196	۔ 212	ا 228	٭ 244
5	0101	· 133	¼ 149	∫ 165	ٴ 181	۶ 197	▬ 213	۸ 229	ں 245
6	0110	¦ 134	ˆ 150	∖ 166	� 182	ﺍ 198	۔ 214	ﺩ 230	ﺭ 246
7	0111	+ 135	ﷲ 151	٧ 167	Ç 183	Ø 199	ﺩ 215	ﺰ 231	ﺃ 247
8	1000	¦ 136	ٯ 152	∑ 168	∧ 184	ﻻ 200	Ù 216	æ 232	þ 248
9	1001	· 137	۵ 153	É 169	٨ 185	É 201	≥ 217	ı 233	۵ 249
A	1010	+ 138	۹ 154	É 170	Ý 186	∫ 202	≈ 218	ٰ 234	۹ 250
B	1011	- 139	۵ 155	É 171	° 187	≥ 203	¦ 219	Ö 235	ﺓ 251
C	1100	+ 140	ﺱ 156	í 172	Ó 188	♦ 204	¬ 220	۸ 236	ß 252
D	1101	+ 141	۵ 157	١ 173	Ö 189	≈ 205	÷ 221	٤ 237	í 253
E	1110	+ 142	۵ 158	١ 174	Ô 190	≈ 206	× 222	Û 238	¦ 254
F	1111	+ 143	ƒ 159	١ 175	ٿ 191	۲ 207	Ú 223	٦ 239	255

5-1. Commands

5.1.1 Commands list for SRP-500 Series. (EPSON TM-U200 Mode)

n	Command	Description	Hexadecimal
1	CR	Print and carriage return	0D
2	HT	Horizontal tab	09
3	LF	Print and linefeed	0A
4	DLE EOT	Transmit real-time status	10 04
5	DLE ENQ	Real-time request to printer	10 05
6	ESC SP	Set right-side character spacing	1B 20
7	ESC %	Select/Cancel user defined characters	1B 25
8	ESC &	Define user-defined characters	1B 26
9	ESC *	Select bit-image mode	1B 2A
10	ESC !	Select print mode	1B 21
11	ESC -	Turn underline mode on/off	1B 2D
12	ESC =	Select peripheral device status	1B 3D
13	ESC 2	Select default line spacing 1/6 lpi	1B 32
14	ESC 3	Set line spacing	1B 33
15	ESC <	Return home	1B 3C
16	ESC ?	Cancel user defined characters	1B 3F
17	ESC @	Initialize printer	1B 40
18	ESC D	Set horizontal positions	1B 44
19	ESC E	Turn emphasized mode on/off	1B 45
20	ESC G	Turn double-strike mode on/off	1B 47
21	ESC J	Print and feed paper <n> vertical units	1B 4A
22	ESC R	Select an international character set	1B 52
23	ESC U	Turn unidirectional printing mode on/off	1B 55
24	ESC a	Select justification	1B 61
25	ESC c 3	Select paper sensor to output paper end signal Select	1B 63 33
26	ESC c 4	paper sensor to stop printing	1B 63 34
27	ESC c 5	Enable/disable panel button	1B 63 35
28	ESC d	Print and feed <n> line	1B 64
29	ESC m	Execute partial cut	1B 6D
30	ESC p	Generate pulse	1B 70
31	ESC r	Select color	1B 72
32	ESC t	Select character code table	1B 74
33	ESC {	Turn upside-down printing mode on/off	1B 7B
34	GS I	Transmit printer ID	1D 49
35	GS V	Select cut mode and cut paper	1D 56
36	GS a	Enable/disable Automatic Status Back (ASB)	1D 61
37	GS r	Transmit status	1D 72

Page 23 (MS-DOS 874 :Thai)

5.1.2 Commands list for SRP-500 Series. (STAR Mode)

n	Command	Description	Hexadecimal
1	BEL	Deferred drive command "A" for peripheral unit 1	07
2	FF	Page feed (Form feed)	0C
3	CR	Print and linefeed (same as LF)	0D
4	SO	Select expanded character mode	0E
5	SI	Select upside-down	0F
6	DC2	Cancel upside-down character	12
7	DC4	Cancel expanded character mode(Default setting)	14
8	CAN	Cancel print data in buffer	18
9	EM	Immediate drive command for peripheral unit2	19
10	SUB	Immediate drive command for peripheral unit 2	1A
11	ESC BEL	Adjust drive pulse width for peripheral unit (Default setting)	1B 07
12	ESC -	Set or Cancel underline mode	1B 2D
13	ESC 4	Red color print selection	1B 34
14	ESC 5	Red color print deselection	1B 35
15	ESC @	Initialize printer	1B 40
16	ESC C	Set page length at n lines	1B 43
17	ESC E	Emphasized print mode	1B 45
18	ESC F	Emphasized print mode deselection (Default setting)	1B 46
19	ESC M	Select 9 x 7(Half dots) character size	1B 4D
20	ESC R	Select international character set	1B 52
21	ESC U	Set or cancel uni-direction mode	1B 55
22	ESC W 1	Select expanded character mode	1B 57 31
	ESC W <1>		1B 57 01
23	ESC W 0	Cancel expanded character mode (Default setting)	1B 57 30
	ESC W <0>		1B 57 00
24	ESC _ 1	Select over-line mode	1B 5F 31
	ESC _ <1>		1B 5F 01
25	ESC _ 0	Cancel over-line mode	1B 5F 30
	ESC _ <0>		1B 5F 01
26	ESC a	Feed paper n lines	1B 61
27	ESC d 0	Partial cut	1B 64 30
28	ESC d 1	Partial cut	1B 64 31
29	ESC e 1	Set the control panel switch invalid	1B 65 31
	ESC e <1>		1B 65 01
30	ESC e 0	Set the control panel switch valid	1B 65 30
	ESC e <0>		1B 65 00
31	ESC f 1	Set the ON LINE switch invalid	1B 66 31
	ESC f <1>		1B 66 01
32	ESC f 0	Set the ON LINE switch valid	1B 66 30
	ESC f <0>		1B 66 00
33	FS	Immediate drive command "B" for peripheral unit 1	1C

5.1.3 Commands list for SRP-500 Series. (CITIZEN Mode)

n	Command	Description	Hexadecimal
1	BEL	First drawer drive command1	07
2	LF	Paper feed command	0A
3	FF n	"n"-lines paper feed command	0C n
4	SO	Enlarged character command	0E
5	SI	Normal character command	0F
6	DC1	Initial set command	11
7	DC2	Inverted character command	12
8	DC3	Red color print command	13
9	CAN	Clear command	18
10	SUB	Second drawer drive command	1A
11	ESC BEL	Drive pulse setting command for the first drawer	1B 07
12	ESC -	Underline command	1B 2D
13	ESC 1	1/9 inch paper feed preset command	1B 31
14	ESC 2	2/9 inch paper feed preset command	1B 32
15	ESC C	Paper length set command	1B 43
16	ESC P <0>	Paper partial cut command	1B 50 00
17	ESC P <1>	Paper partial cut command	1B 50 01
18	FS	First drawer quick drive command	1C
19	CR	Printing	ØD
20	ESC * n1 n2	Specifying the bit image mode	1B 2A n1 n2
21	ESC f <1>	Form feed	1B 66 Ø1

5-2. Character Code Tables

n	Page
0	PC437
2	PC850
3	PC860
4	PC863
5	PC865
16	PC1252
17	PC866
18	PC852
19	PC858
21	PC862
22	PC864
23	PC874

Control commands list

5-3. Command descriptions

HT

[Name] Horizontal tab

[Format] ASCII HT
Hex 09
Decimal 10
[Description] Moves the print position to the next horizontal tab position.

[Notes]

- This command is ignored unless the next horizontal tab position has been set.
- Horizontal tab positions are set with ESC D.
- The default tab positions are at intervals of 8 characters (columns 9, 17, 25..) for the font B (12 x 12).

[Reference] **ESC D**

LF

[Name] Print and line feed

[Format] ASCII LF
Hex 0A
Decimal 10

[Description] Prints the data in the print buffer and feeds one line based on the current line spacing.

[Note] This command sets the print position to the beginning of the line.

[Reference] **ESC 2, ESC 3**

CR

[Name] Print and carriage return

[Format] ASCII CR
Hex 0D
Decimal 13
[Description] This command prints the data in the print buffer and does not feed the paper.

[Note] Sets the print starting position to the beginning of the line

[Reference] **LF**

DLE EOT *n*

[Name] Real-time status transmission

[Format] ASCII DLE EOT n
Hex 10 04 n
Decimal 16 4 n

[Range] 1 ≤ n ≤ 4

[Description] Transmits the selected printer status specified by n in real time, according to the following parameters:
n = 1: Transmit printer status
n = 2: Transmit off-line status
n = 3: Transmit error status
n = 4: Transmit paper roll sensor status
[Notes]

- This command should not be used within the data sequence of another command that consists of 2 or more bytes. For example, If you attempt to transmit ESC 3 n to the printer, but DTR (DSR for the host computer) goes to MARK before n is transmitted and then DLE EOT 3 interrupts before n is received, the code <10>H for DLE EOT 3 is processed as the code for ESC 3 <10>H.

n = 1 : Printer status

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Not used. Fixed to Off.
1	On	02	2	Not used. Fixed to On.
2	Off	00	0	Drawer kick-out signal is LOW (connector pin 3)
	On	04	4	Drawer kick-out signal is HIGH (connector pin 3)
3	Off	00	0	On-line.
	On	08	8	Off-line.
4	On	10	16	Not used. Fixed to On.
5	Off	00	0	Not used. Fixed to Off.
6	Off	00	0	Not used. Fixed to Off.
7	Off	00	0	Not used. Fixed to Off.

n = 3 : Error status

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Not used. Fixed to Off.
1	On	02	2	Not used. Fixed to On.
2	Off	00	0	No mechanical error.
	On	04	4	Mechanical error occurred.
3	Off	00	0	No auto-cutter error.
	On	08	8	Auto-cutter error occurs.
4	On	10	16	Not used. Fixed to On.
5	Off	00	0	No unrecoverable error.
	On	20	32	Unrecoverable error occurs.
6	Off	00	0	Automatic recover error.
	On	40	64	No automatic recover error.
7	Off	00	0	Not used. Fixed to Off.

Bit 2 : If these errors occur due to paper jams or the like, it is possible to recover by correcting the cause of the error and executing **DLE ENQ 2**. If an error due to a circuit failure (e.g. wire break) occurs, it is impossible to recover.

n = 2 : Off-line status

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Not used. Fixed to Off.
1	On	02	2	Not used. Fixed to On.
2	Off	00	0	Not used. Fixed to Off.
3	Off	00	0	Paper is not being fed by using the paper feed button.
	On	08	8	Paper is being fed by the paper feed button.
4	On	10	16	Not used.
5	Off	00	0	Fixed to On.
	On	20	32	No paper-end stop.
6	Off	00	0	Printing stops due to paper end.
	On	40	64	No error. Error occurs.
7	Off	00	0	Not used. Fixed to Off.

n = 4 : Continuous paper sensor status

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Not used. Fixed to Off.
1	On	02	2	Not used. Fixed to On.
2, 3	Off	00	0	Paper near-end sensor. Paper adequate.
	On	0C	12	Paper near-end is detected by the paper near-end sensor.
4	On	10	16	Not used. Fixed to On.
5, 6	Off	00	0	Paper end sensor. Paper adequate.
	On	60	96	Paper end is detected by the paper end sensor.
7	Off	00	0	Not used. Fixed to Off.

Bit 5 : On (printing stops due to paper-end) when printing stops due to paper-end detected by the paper-end sensor or the paper near-end enabled by using the **ESC c 4**.

Control commands list

DLE ENQ *n*

[Name]   Real-time request to printer

[Format]   ASCII   DLE   ENQ   n
                Hex   10   05   n
                Decimal 16   5   n

[Range]   n = 0, n = 2

[Description]   The printer responds to a request from the host specified by n.
                n = 0: Recovers to on-line state.
                n = 2: Recovers from an error after clearing the receive and print buffers.

[Notes]

● This command should not be used within the data sequence of another command that consists of two or more bytes. For example,

If you attempt to transmit ESC 3 n to the printer, but DTR (DSR for the host computer) goes to MARK before n is transmitted, and DLE ENQ 2 interrupts before n is received, the code <10>H for DLE ENQ 2 is processed as the code for ESC 3 <10>H.

● This command n = 2 is valid only when a mechanical error or an auto-cutter error has occurred.

● DLE ENQ 2 enables the printer to recover from an error after clearing the data in the receive buffer and the print buffer.
The printer retains the settings (by ESC !, ESC 3, etc.) in effect when the error occurred. The printer can be initialized completely by using this command and ESC @. This command is enabled only for errors that have the possibility of recovery

ESC SP *n*

[Name]   Set right-side character spacing

[Format]   ASCII   ESC   SP   n
                Hex   1B   20   n
                Decimal 27   32   n

[Range]   0 ≤ n ≤ 255

[Description]   Sets the character spacing for the right side of the character to
                [n x 0.122 mm {1/208 inches}] .

[Notes]   The right-side character spacing for double-width mode is
                twice the normal value.

[Default]   n = 0

ESC ! *n*

[Name]   Select print mode(s)

[Format]   ASCII   ESC   !   n
                Hex   1B   21   n
                Decimal 27   33   n

[Range]   0 ≤ n ≤ 255

[Description]   Selects print mode(s) using n as follows:

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Character font A (12 x 14) selected.
	On	01	1	Character font B (12 x 12) selected.
1	-	-	-	Undefined.
2	-	-	-	Undefined.
3	Off	00	0	Emphasized mode not selected.
	On	08	8	Emphasized mode selected.
4	Off	00	0	Double-height mode not selected.
	On	10	16	Double-height mode selected.
5	Off	00	0	Double-width mode not selected.
	On	20	32	Double-width mode selected.
6	-	-	-	Undefined.
7	Off	00	0	Underline mode not selected.
	On	80	128	Underline mode selected.

[Notes]

● When both double-height and double-width modes are selected, quadruple size characters are printed.

● Underlining is added to the entire width of each character, including the space to the right of a character, but is not added to portions of lines that were skipped by means of an **HT**.

[Default]   n = 1

[Reference]   **ESC E, ESC –**

ESC % *n*

[Name]   Select/cancel user-defined character set

[Format]   ASCII   ESC   %   n
                Hex   1B   25   n
                Decimal 27   37   n

[Range]   0 ≤ n ≤ 255

[Description]   Selects or cancels the user-defined character set.

                When the Least Significant Bit (LSB) is 0, the user-defined character set is canceled and the internal character set is enabled.

                When the LSB is 1, the user-defined character set is selected.

[Notes]
                ● When the downloaded character set has been released, the internal character set is specified automatically.

[Default]   n = 0

[Reference]   **ESC &, ESC ?**

ESC & y c1 *c2 [x1 d1...d(y x x1)]...[xk d1... d(y x xk)]*

[Name]   Define user-defined characters

[Format]   ASCII   ESC   &   y c1 c2 [x1 d1...d(y x x1)]...[xk d1... d(y x xk)]
                Hex   1B   26   y c1 c2 [x1 d1...d(y x x1)]...[xk d1... d(y x xk)]
                Decimal 27   38   y c1 c2 [x1 d1...d(y x x1)]...[xk d1... d(y x xk)]

[Range]   y = 2
                32 ≤ c1 ≤ c2 ≤ 255
                0 ≤ x ≤ 14 (Font A)
                0 ≤ x ≤ 12 (Font B)
                0 ≤ d1 ... d(y x x) ≤ 255

[Description]   Defines user-defined characters.

                ● y specifies the number of bytes in the vertical direction.

                ● c1 specifies the beginning character code for the definition, and c2 specifies the final code. When only one character is desired, use c1 = c2.

                ● x specifies the number of dots in the horizontal direction.

[Notes]
                ● Consecutive character codes for multiple characters can be defined in one definition. When specifying only one character, specify c1 = c2.

                ● "d" is definition data that indicates the pattern for " x" dots in the horizontal direction starting from the left edge. If " x" does not satisfy the number of dots in the character configuration pattern, the remaining dots on the right are spaces.

                ● The number of bytes required to download a character definition for one character is " y" x " x".

                ● In the definition data, a "1" represents a dot that is to be printed, and a "0" represents a dot that is not to be printed.

                ● Independent downloaded character definitions are possible for each font. The font is selected by the "ESC !" command.

                ● The defined downloaded characters are cleared in the following circumstances:
                        1) When "**ESC @**" is executed
                        2) When deleted by "**ESC ?**"
                        3) When the printer is reset or turned off

[Default]   The internal character set

[Reference]   **ESC %, ESC ?**

ESC * *m nL nH d1...dk*

[Name] Select bit-image mode

[Format]
ASCII ESC * *m nL nH d1...dk*
Hex 1B 2A *m nL nH d1...dk*
Decimal 27 42 *m nL nH d1...dk*

[Range]
m = 0, 1
0 ≤ nL ≤ 255
0 ≤ nH ≤ 3
0 ≤ d ≤ 255

[Description] Selects a bit-image mode using m for the number of dots specified by *nL* and *nH*

- Divide the number of dots to be printed by 256. The interger answer is nH and the remainder is nL. Therefore, the number of dots in the horizontal direction is calculated by nL + 256 x nH.

- If the bit-image data input exceeds the number of dots to be printed on a line, the excess data is ignored.

- *d* indicates the bit-image data. Set a corresponding bit to 1 to print a dot or to 0 to not print a dot.

- The bit-image modes selectable by m are as follows.

m	No. of Vertical Dots	Dot Density	Adjacent Dot	Maximum number of dots
0	8	Single Density	Permitted	252
1	8	Double Density	Permitted	504

[Notes]
- If the values of m and nH are out of the specified range, the following data is processed as normal data.

- After printing a bit image, the printer returns to normal data processing mode.

- The relationship between the image data and the dots to be printed is as follows.
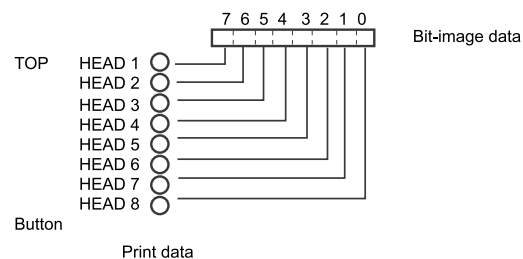
ESC - *n*

[Name] Turn underline mode on/off

[Format]
ASCII ESC - n
Hex 1B 2D n
Decimal 27 45 n

[Range] n = 0, 1, 48, 49

[Description] Turns underline mode on or off,

- When n = 0 or 48, underline mode is turned off.

- When n = 1 or 49, underline mode is turned on.

[Notes]
- Underlines can be printed for all characters, but not for the space set by HT.

- This command and ESC ! turn underline mode on or off in the same way.

- If n is out of the specified range, this command is ignored.

[Default] *n* = 0

[Reference] **ESC !**

ESC 2

[Name] Select default line spacing

[Format]
ASCII ESC 2
Hex 1B 32
Decimal 27 50

[Description] Selects default (1/6-inch) line spacing.

[Reference] **ESC 3**

ESC 3 n

[Name]   Set line spacing

[Format]   ASCII   ESC   3   n
                Hex   1B   33   n
                Decimal 27   51   n

[Range]   0 ≤ d ≤ 255

[Description]   Sets the line spacing to [n x (1/192)] inches.

[Default]   n = 32 (1/6 inch)

[Reference]   **ESC 2**

ESC <

[Name]   Return home

[Format]   ASCII   ESC   <
                Hex   1B   3C
                Decimal 27   60

[Description]   Moves the print head to the standby position.

[Notes]

● The leftmost end is detected by the home position sensor.

● Since the home position is detected when this command is executed, the printing position may shift after this command is executed.

ESC = *n*

[Name]   Select device

[Format]   ASCII   ESC   =   n
                Hex   1B   3D   n
                Decimal 27   61   n

[Range]   n = 1

[Description]   Selects device to which host computer sends data.
                ● n = 1 ; enable
                ● n = 2 ; disable

[Default]   n = 1

ESC ? *n*

[Name]   Cancel user-defined characters

[Format]   ASCII   ESC   ?   n
                Hex   1B   3F   n
                Decimal 27   63   n

[Range]   32 ≤ n ≤ 255

[Description]   Cancels user-defined characters.

[Notes]

● This command cancels the pattern defined for the character code specified by n. After the user-defined characters is cancelled, the corresponding pattern for the internal character is printed.

● This command deletes the defined pattern for the specified code in the character font selected by the "ESC !" command.

● If a user-defined character has not been defined for the specified character code, the printer ignores this command.

[Reference]   **ESC &, ESC %**

ESC @

[Name]   Initialize printer

[Format]   ASCII   ESC   @
                Hex   1B   40
                Decimal 27   64

[Description]   Clears the data in the print buffer and resets the printer mode to the mode that was in effect when the power was turned on.

[Notes]

● The DIP switch settings are not checked again.

● The data in the receive buffer is not cleared.

ESC D *n1... nk NUL*

[Name]	Set horizontal tab positions

[Format]

	ASCII	ESC	D	n1...nk NUL
	Hex	1B	44	n1...nk 00
	Decimal	27	68	n1...nk 0

[Range]   1 ≤ d ≤ 255
            0 ≤ k ≤ 32

[Description]   Sets horizontal tab positions.

● *n* specifies the column number (counted from the beginning of the line) for setting a horizontal tab position.

● *k* indicates the total number of horizontal tab positions to be set.

[Notes]

● The tab position is set at [character width x n] from the beginning of the line. The character width includes the right-side space of the character, and is twice the normal value when double-width is specified.

● This command deletes horizontal tab positions that have already been set.

● When "n = 8" has been set for the horizontal tab position, the printing position moves to the ninth digit when **HT** is executed.

● Up to 32 tab positions can be set. Data exceeding 32 tab positions is processed as normal data. Input <n>k in ascending order and place a NUL code <00>H at the end when <n>k is less than or equal to the preceding value <n>k-1, tab setting is finished and the following data is processed as normal data.

● **ESC D NUL** cancels all horizontal tab positions.

● The previously specified horizontal tab positions do not change, even if the character width changes.

[Default]   The default tab positions are at intervals of 8 characters (columns 9, 17, 25, ...) for the font B (12 x 14).

[Reference]   **HT**

ESC E n

[Name]	Turn emphasized mode on/off

[Format]

	ASCII	ESC	E	n
	Hex	1B	45	n
	Decimal	27	69	n

[Range]   32 ≤ n ≤ 255

[Description]   Turns emphasized mode on or off.
● When the LSB of n is 0, emphasized mode is turned off.

● When the LSB of n is 1, emphasized mode is turned on.

[Notes]   * Printing is slower in emphasized mode.

● Only the lowest bit of n is enabled.

● The printer does not emphasize bit-images.

● This command and **ESC !** turn on and off emphasized mode in the same way. The last proceeded command becomes effective.

● Printer output is the same in double-strike (**ESC G**) and in emphasized.

[Default]   n = 0

[Reference]   **ESC !, ESC G**

ESC G n

[Name]   Turn double-strike mode on/off

[Format]   ASCII   ESC   G   n
                Hex   1B   47   n
                Decimal   27   71   n

[Range]   0 ≤ n ≤ 255

[Description]   Turns double-strike mode on or off.

● When the LSB of n is 0, double-strike mode is turned off.

● When the LSB of n is 1, double-strike mode is turned on.

[Notes]   * Printing is slower in double-strike mode.

● Only the lowest bit of n is enabled.

● The printer does not double-strike for bit-images.

● Printer output is the same in double-strike and in emphasized (**ESC E**).

[Default]   n = 0

[Reference]   **ESC E**

ESC J *n*

[Name]   Print and feed paper

[Format]   ASCII   ESC   J   n
                Hex   1B   4A   n
                Decimal   27   74   n

[Description]   Prints the data in the print buffer and feeds the paper
                [n x 0.122mm {1/192 inches}] .

[Notes]

● After printing is completed, this command sets the print starting position
  to the beginning of the line.

● This command has no effect on the line feed amount set by the "**ESC 2**"
  command or the "**ESC 3**" command.

ESC R *n*

[Name]   Select an international character set

[Format]   ASCII   ESC   R   n
                Hex   1B   52   n
                Decimal   27   82   n

[Range]   0 ≤ n ≤ 10

[Description]   Selects an international character set n from the following table:

n	Character set
0	U.S.A
1	France
2	Germany
3	U.K.
4	Denmark I
5	Sweden
6	Italy
7	Spain I
8	---
9	Norway
10	Denmark II

[Default]   n = 0

ESC U *n*

[Name]   Turn unidirectional printing mode on/off

[Format]   ASCII   ESC   U   n
                Hex   1B   55   n
                Decimal   27   85   n

[Range]   0 ≤ n ≤ 255

[Description]   Turns unidirectional printing mode on or off

● When the LSB of n is 1, turn on unidirectional printing mode.

[Notes]

● Only the lowest bit of n is enabled.

● To avoid horizontal printing misalignment, unidirectional printing
  mode should be used.

[Default]   n = 0

Control commands list

ESC a *n*

[Name]   Select justification

[Format]   ASCII   ESC   a   n
                Hex   1B   61   n
                Decimal   27   97   n

[Range]   0 ≤ n ≤ 2, 48 ≤ n ≤ 50

[Description]   Aligns all the data in one line to the specified position.

n selects the type of justification as follows:

n	Justification
0, 48	Left justification
1, 49	Centering
2, 50	Right justification

[Notes]

● The command is enabled only when input at the beginning of the line.

● A portion of data skipped by means of HT is also target data for the justification function.

[Default]   n = 0

[Example]

Left justification	Centering	Right justification
ABC ABCD ABCDE	ABC ABCD ABCDE	ABC ABCD ABCDE

ESC c 3 *n*

[Name]   Select paper detector(s)to output paper end signals

[Format]   ASCII   ESC   c   3   n
                Hex   1B   63   33   n
                Decimal 27   99   51   n

[Range]   0 ≤ n ≤ 255

[Description]   Selects paper detector(s) to output paper end signals, using n as follows:

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Paper roll near end sensor disabled.
	On	01	1	Paper roll near end sensor enabled.
1	Off	00	0	Paper roll near end sensor disabled.
	On	02	2	Paper roll near end sensor enabled.
2	Off	00	0	Paper roll end detector disabled.
	On	04	4	Paper roll end detector enabled.
3	Off	00	0	Paper roll end detector disabled.
	On	08	8	Paper roll end detector enable.
4	-	-	-	Undefined
5	-	-	-	Undefined
6	-	-	-	Undefined
7	-	-	-	Undefined

[Notes]

● It is possible to select multiple detectors to output signals. Then, if any of the detectors detects a paper end, the paper end signal is output.

● Detectors are switched when executing this command. Because of this, the paper-out signal switching may delay depending on the receive buffer state.

[Default]   n = 15

Control commands list

ESC c 4 *n*

[Name]   Select paper sensor(s)to stop printing

[Format]

ASCII	ESC	c	4	n
Hex	18	63	34	n
Decimal	27	99	52	n

[Range]   0 ≤ n ≤ 255

[Description]   Selects the paper sensor(s) used to stop printing when a paper-end is detected, using n as follows :

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Paper roll near end sensor disabled.
	On	01	1	Paper roll near end sensor enabled.
1	Off	00	0	Paper roll near end sensor disabled.
	On	02	2	Paper roll near end sensor enabled.
2	-	-	-	Undefined
3	-	-	-	Undefined
4	-	-	-	Undefined
5	-	-	-	Undefined
6	-	-	-	Undefined
7	-	-	-	Undefined

[Notes]

● The printer goes off-line after printing stops.

● The paper roll near-end sensor is an option, therefore, if the paper roll near-end sensor is enabled by this command when the sensor is not equipped, it does not stop printing.

● The paper roll near-end sensor is enabled when either bit 0 or 1 is 1.

● The paper roll end sensor is a sensor which is always used to make an effective to stop printing.

[Default]   n = 0

ESC c 5 *n*

[Name]   Enable/disable panel buttons

[Format]

ASCII	ESC	c	5	n
Hex	1B	63	35	n
Decimal	27	99	53	n

[Range]   0 ≤ n ≤ 255

[Description]   Enables or disables the panel buttons.

● When the LSB of n is 0, the panel buttons are enabled.

● When the LSB of n is 1, the panel buttons are disabled.

[Notes]

● Only the least significant bit of "n" is valid.

● When the panel buttons are disabled, no buttons on the panel are usable. If "disabled" is set, the paper feed switch no longer functions.

[Default]   n = 0

ESC d *n*

[Name]   Print and feed n lines

[Format]

ASCII	ESC	d	n
Hex	1B	64	n
Decimal	27	100	n

[Range]   0 ≤ n ≤ 255

[Description]   Prints the data in the print buffer and feeds n lines.

[Notes]

● This command sets the print starting position to the beginning of the line.

● The amount of paper fed per line is based on the value set using the line spacing command (**ESC 2** or **ESC 3**)

[Reference]

ESC m

[Name]	Execute partial cut

[Format]
ASCII ESC m
Hex 1B 6D
Decimal 27 109

[Description] Execute partial cut with one point uncut

ESC p *m t1 t2*

[Name] Generate pulse

[Format]
ASCII ESC p *m t1 t2*
Hex 1B 70 *m t1 t2*
Decimal 27 112 *m t1 t2*

[Range] m = 0, 1, 48, 49
0 ≤ t1 ≤ 255
0 ≤ t2 ≤ 255

[Description] Outputs the pulse specified by t1 and t2 to connector pin m as follows:

m	Connector Pin
0	Drawer kick-out connector pin 2
1	Drawer kick-out connector pin 5

[Notes]

● The pulse ON time is [t1 x 2] ms and the OFF time is [t2 x 2] ms.

● When t2 < t1, the printer processes t1 x 2 ms.

[Reference]

ESC r *n*

[Name] Select print color

[Format]
ASCII ESC r n
Hex 1B 72 n
Decimal 27 114 n

[Range] n = 0, 1, 48, 49

[Description] Selects the print color.

n	Selected color
0, 48	Black
1,49	Red

[Notes]

● Valid only when input at the beginning of a line.

[Default] n = 0

ESC t *n*

[Name] Select character code table

[Format]
ASCII ESC t n
Hex 1B 74 n
Decimal 27 116 n

[Range] n = 0, 2, 3, 4, 5, 16, 17, 18, 19, 21, 22, 23

[Description] Selects a page n from the character code table.

n	Page
0	PC437
2	PC850
3	PC860
4	PC863
5	PC865
16	PC1252
17	PC866
18	PC852
19	PC858
21	PC862
22	PC864
23	PC874

[Default] n = 0

[Reference]

ESC { n

[Name]	Turns on/off upside-down printing mode

[Format]
	ASCII	ESC	{	n
	Hex	1B	7B	n
	Decimal	27	123	n

[Range]   0 ≤ n ≤ 255

[Description]   Turns upside-down printing mode on or off.

When the LSB of n is 0, upside-down printing mode is turned off.

When the LSB of n is 1, upside-down printing mode is turned on.

[Notes]

Only the lowest bit of n is effective.

This command is enabled only when input at the beginning of a line.

In upside-down printing mode, the printer rotates the line to be printed by 180° and then prints it.
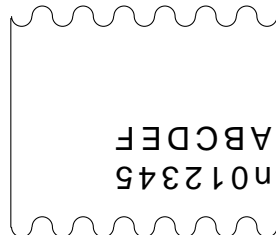
[Default]   n = 0

[Example]

Upside-down printing mode is furned off   Upside-down printing mode is furned on

ABCDEF
n012345

ꟼƎ◖ƆꓭA
n012345

Paper feed direction

GS I *n*

[Name]	Transmit printer ID

[Format]
	ASCII	GS	I	n
	Hex	1D	49	n
	Decimal	29	73	n

[Range]   1 ≤ n ≤ 3

[Function]   Transmits the printer ID specified by n as follows:

n	Printer ID	Specification	ID (hexadecimal)
1,49	Printer model ID	SRP-500 series See table	0D
2,50	Type ID	below	
3,51	ROM version ID	ROM version	

n = 2, Type ID

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Two-byte character code not supported.
	On	01	1	Two-byte character code supported.
1	Off	00	0	Auto cutter not equipped.
	On	02	2	Auto cutter equipped.
2	-	-	-	Undefined.
3	-	-	-	Undefined.
4	Off	00	0	Not used. Fixed to Off.
5	-	-	-	Undefined.
6	-	-	-	Undefined.
7	Off	00	0	Not used. Fixed to Off.

[Notes]

● The printer ID is transmitted when the data in the receive buffer is developed. Therefore, there may be a time lag between receiving this command and transmitting the status, depending on the receive buffer status.

[Reference]

① GS V m
② GS V m n

[Name]   Feeds paper for cutting position.

[Format]

① ASCII	GS	V	m	
Hex	1D	56	m	
Decimal	29	86	m	
② ASCII	GS	V	m	n
Hex	1D	56	m	n
Decimal	29	86	m	n

[Range]   ① m = 1, 49   ② m = 66, 0 ≤ n ≤ 255

[Description]   Feeds paper for cutting position as follows;

Bit	Print mode
1, 49	Partial cut (one portion left uncut)
66	Feeds paper for (cutting position + [n x 0.122 mm {1/192 inches}]), and partial cut.

[Notes]

● This command is effective only at the beginning of a line.

● When n = 0, the printer feeds the paper to the cutting position.

● When n , 0,the printer feeds the paper to
(cutting position +[n x 0.122 mm {1/192 inches}]).

GS a *n*

[Name]   Enable/Disable Automatic Status Back

[Format]

ASCII	GS	a	n
Hex	1D	61	n
Decimal	29	97	n

[Range]   0 ≤ n ≤ 255

[Description]   Enables or disables ASB and specifies the status items to include,
using n as follows:

Bit	Off/On	Hex	Decimal	Status for ASB
0	Off	00	0	Drawer kick-out connector pin 3 status disabled.
	On	01	1	Drawer kick-out connector pin 3 status enabled.
1	Off	00	0	On-line/off-line disabled.
	On	02	2	On-line/off-line enabled
2	Off	00	0	Error status disabled.
	On	04	4	Error status enabled.
3	Off	00	0	Paper roll sensor status disabled.
	On	08	8	Paper roll sensor status enabled.
4	-	-	-	Undefined.
5	-	-	-	Undefined.
6	-	-	-	Undefined.
7	-	-	-	Undefined.

[Notes]

● Even if only one of the statuses is enabled, the status is sent when
this command is executed. Subsequently, whenever the state of a
valid status changes, that status is sent. In this case, because the
current state is shown for each status, there is a possibility of a
state change for a status for which ASB is not enabled.

● If all statuses are disabled, the Automatic Status Back (ASB)
function is disabled.

● When transmitting a status, the printer transmits only four bytes.

● Four bytes of status data must be consecutive, except for XOFF code.

● This command is executed when the data in the receive buffer is
developed. Therefore, there may be a time lag between receiving
this command and transmitting the status, depending on the
receive buffer status.

● When the printer is disabled by ESC = (Select peripheral device),
this command is disabled but ASB is not disabled.

● The status to be transmitted are as follows:

First byte (printer information)

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Not used. Fixed to Off.
1	Off	00	0	Not used. Fixed to Off.
2	Off	00	0	Drawer kick-out connector pin 3 is LOW.
	On	04	4	Drawer kick-out connector pin 3 is HIGH.
3	Off	00	0	On-line.
	On	08	8	Off-line.
4	On	10	16	Not used. Fixed to On.
5	Off	00	0	Not used. Fixed to Off.
6	Off	00	0	Paper is not being fed by the paper feed button.
	On	40	64	Paper is being fed by the paper feed button.
7	Off	00	0	Not used. Fixed to Off.

Second byte (printer information)

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Not used. Fixed to Off.
1	Off	00	0	Not used. Fixed to Off.
2	Off	00	0	No mechanical error.
	On	04	4	Mechanical error.
3	Off	00	0	No auto cutter error.
	On	08	8	Auto cutter error occurred.
4	Off	00	0	Not used. Fixed to Off.
5	Off	00	0	No unrecoverable error.
6	On	20	32	Unrecoverable error.
	Off	00	0	Not used. Fixed to Off.
7	Off	00	0	Not used. Fixed to Off.

Third byte (paper sensor information)

Bit	Off/On	Hex	Decimal	Function
0, 1	Off	00	0	Paper near-end sensor: paper adequate. Paper
	On	03	3	near-end sensor: paper near end.
2, 3	Off	00	0	Paper end sensor: paper present. Paper end sensor:
	On	0C	12	no paper present.
4	Off	00	0	Not used. Fixed to Off.
5	Off	00	0	Not used. Fixed to Off.
6	Off	00	0	Not used. Fixed to Off.
7	Off	00	0	Not used. Fixed to Off.

Fourth byte (paper sensor information)

Bit	Off/On	Hex	Decimal	Function
0	On	01	1	Not used. Fixed to On.
1	On	02	2	Not used. Fixed to On.
2	On	04	4	Not used. Fixed to On.
3	On	08	8	Not used. Fixed to On.
4	Off	00	0	Not used. Fixed to Off.
5	Off	00	0	Not used. Fixed to Off.
6	Off	00	0	Not used. Fixed to Off.
7	Off	00	0	Not used. Fixed to Off.

[Default]   n = 0

[Reference]

GS r *n*

[Name]	Transmit status

[Format]

ASCII	GS	r	n
Hex	1D	72	n
Decimal	29	114	n

[Range]   1 ≤ n ≤ 2,   49 ≤ n ≤ 50

[Description]   Transmits the status specified by n as, follows:

n	Function
0, 48	Transmits paper sensor status
1,49	Transmits drawer kick-out connector status

[Notes]

● This command is executed when the data in the receive buffer is developed. Therefore, there may be a time lag between receiving this command and transmitting the status, depending on the receive buffer status.

● The status types to be transmitted are shown below:

Paper sensor status (n = 1, 49)

Bit	Off/On	Hex	Decimal	Status for ASB
0, 1	Off	00	0	Paper near-end sensor: paper present. Paper near-
	On	03	3	end sensor: paper near end.
2, 3	Off	00	0	Paper end sensor. Paper present. Paper end sensor:
	On	0C	12	no paper present.
4	Off	00	0	Not used. Fixed to Off.
5	Off	00	0	Not used. Fixed to Off.
6	Off	00	0	Not used. Fixed to Off.
7	Off	00	0	Not used. Fixed to Off.

Drawer kick-out connector status (n = 2,50)

Bit	Off/On	Hex	Decimal	Status for ASB
0	Off	00	0	Drawer kick-out connector pin 3 is LOW. Drawer
	On	01	1	kick-out connector pin 3 is HIGH.
1	Off	00	0	Not used. Fixed to Off.
2	Off	00	0	Not used. Fixed to Off.
3	Off	00	0	Not used. Fixed to Off.
4	Off	00	0	Not used. Fixed to Off.
6	Off	00	0	Not used. Fixed to Off.
7	Off	00	0	Not used. Fixed to Off.

[Reference]

6-1. Printing specification

Printing method	Serial ink jet matrix method
Printing direction	Bidirectional(logic seeking) with friction feed
Resolution	104 x 96(dpi): Text
	208 x 96(dpi): Graphic
Characters per line	Max 42(characters)
Printing speed	6.5 LPS (Lines Per Second)
	at 40 columns
printing Width	63.5mm
Line Interval	4.233mm (1/6")
Character sets	Alphanumeric characters: 95
	International characters: 32
	Extended graphics: 128 x 12 pages
Character font	12 x 12 / 12 x 14

6-2. Paper specification

■ Paper roll

Type	Normal paper
Size	Width : 76 ± 0.5(mm)
Thickness	0.06 to 0.09(mm)
Maximum outside diameter	ø 83mm
Paper core inside diameter	ø 10 to 12.5(mm)

6-3. Ink cartridge specification

Model	HP 6602X
Firing frequency	3.0KHz – low density printing(Text)
	1.5KHz – high density printing(Graphic)
Operating Voltage	19.9 ± 0.5V
Resistance	60 Ω
Operating Temperature	10~40 ˚C
Date of expiration	Two years after production
	(at normal temperature)

Notice
Follow the laws or regulations of your country or community for disposing of used ink cartridges.

6-4. Electrical characteristics

Supply voltage		24V DC ± 5%
Current consumption (at 24V,except for drawer kick –out driving)	Operating	Mean : Approximately 0.5A
		Peak : Approximately 1.5A
	Standby	Mean : Approximately 0.3A

Notice

Maximum 1A for drawer kick-out driving

6-5. Reliability

| Life Firing frequency	Mechanism : 15,000,000 lines
	Auto cutter : 500,000 cuts
	(End of Life is defined as the point at which the printer reaches the beginning of the Wear out Period.)
MTBF	30,000 hours (Failure is defined as Random Failure occurring at the time of the Random Failure Period.)

6-6. Environmental condition

The printer will run its best when stored and operated in an environment that meets the following temperature and humidity conditions:

Operating	10 ˚ to 40 ˚C
Storage	-10 ˚ to 60 ˚C
Shipping	-40 ˚ to 70 ˚C
Relative Humidity	Operating : 10 to 90% RH (non-condensing)
	Storage : 10 to 90% RH (non-condensing)
	Shipping : 5 to 90% RH (non-condensing)

* Exposure to high or low temperatures for periods of greater than 48 hours will lead to significantly reduced cartridge life.

6-7. Dimensions & Weight

■ Dimension
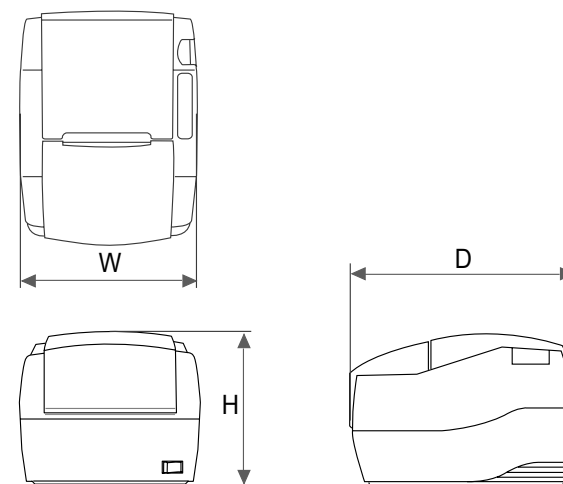
	W	D	H
Dimensions(mm)	172	226	152

■ Weight

Approx. Wt : 2.7kg
Shipping. Wt : 3.5Kg

6-8 . Optional features

■ The optional features either replace a standard feature or enhance the operation of the printer. All optional features are installed at the factory and must be selected when the printer is ordered.

● Two color printing (Black / Red / Green / Blue)

● Interface (serial / parallel / USB)

● Cabinet color (Ivory / Dark gray)

Memo ···